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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,404	10/16/2003	Shunichiro Nonaka	0905-0294P	7816
2292 7590 03/22/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER MOTSINGER, SEAN T	
			ART UNIT	PAPER NUMBER
			2624	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	03/22/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 03/22/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/685,404

Applicant(s)

NONAKA, SHUNICHIRO

Examiner

Sean Motsinger

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 10/16/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 103 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 1-3 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 10/16/2003.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Objections to the specification

1. The disclosure is objected to because of the following informalities: The use of the elements "second" and "first" "high-frequency component calculation device" is inconsistent through out the specification in some instances. In the summary and the claims the "gain coefficient calculation device" uses the output of the "first high-frequency component calculation device" (see page 2 and claims 1 and 3) while in the detailed description the "gain coefficient calculation device" uses the output of the "second high-frequency component calculation device" (see page 8 paragraph 2). Appropriate correction is required.

Objections to the Claims

2. Claims 1-3 are objected to because of the following informalities: See above objection to the specification. Appropriate correction is required.

Rejections Under 35 U.S.C. 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levinen US 5,524,162 in view of Gallagher US 6,965,702.

4. Re claim 1, Levenen discloses An image data correction apparatus comprising: a first high-frequency component calculation device (FFT analyzer see figure 7 element 38 column 3 lines 37-38) for calculating, for each area obtained when one frame of an image has been divided into a plurality of areas (sub-area see abstract), a high-frequency component of original image data representing one frame of the image (fmax see column 3 lines 37-43); a gain coefficient calculation device (filter coefficient determiner figure 7 element 40 see column 3 lines 44-46) for calculating gain coefficients (SF see abstract) of a sharpness correction based upon the high-frequency components of respective ones of the areas calculated by the first high-frequency component calculation device (note SF is calculated for each area via Fmax which is calculated for each area see column 3 lines 55-62); and a sharpness correction device (convolution filter figure 7 element 42, figure 8 and column 4 lines 14-18) for using the gain coefficients (sharpening parameters), to apply a sharpness correction (sharpening) to image data representing corresponding ones of the areas in the original image data (sub-area column 4 line 12). Levenen does not disclose a second high-frequency component calculation device for calculating a high-frequency component of the original image data; a gain coefficient correction device for correcting the gain coefficients, which have been calculated by said gain coefficient calculation device, based upon the high-frequency component, which has been calculated by said second high-frequency component calculation device, with respect to the one frame of the image. However Gallagher discloses a second high-

frequency component calculation (noise map generator column 3 line 19) device for calculating a high-frequency component (noise map column 3 line 20) of the original image data; a gain coefficient correction device for correcting the gain coefficients (column 7 line 9 gain map modifier), which have been calculated by said gain coefficient calculation device, based upon the high-frequency component (noise map column 7 lines 10-15), which has been calculated by said second high-frequency component calculation device (noise map generator column 3 line 19), with respect to the one frame of the image. The motive for combining these is to make sure that "the gain does not exceed a predetermined limit in areas where the noisy pixel belief map indicates high belief that the region is noisy" (column 7 lines 10-15). Therefore it would have been obvious to one of ordinary skill in the art to combine the present references to reach the aforementioned advantage.

5. Re claim 2, Gallagher further discloses wherein said gain coefficient correction device corrects the gain coefficients(see rejection for claim 1), which have been calculated by said gain coefficient calculation device (see rejection for claim 1), in such a manner that the greater the high-frequency component regarding the one frame of the image calculated by said second high-frequency component calculation device ("where the noisy pixel belief map indicates high belief that the region is noisy" column 7 lines 10-15), the smaller the gain coefficients ("the gain does not exceed a predetermined limit" column 7 lines 10-15).

6. Re claim 3, Levien discloses a method of correcting image data, comprising the steps of: calculating a high-frequency component of original image data (f_{max} see column 3 lines 37-43), which represents one frame of an image, for each area obtained when one frame of the image has been divided into a plurality of areas (sub-area see abstract); calculating gain coefficients of a sharpness correction (SF see abstract) based upon the calculated high-frequency components of respective ones of the areas (note SF is calculated for each area via F_{max} which is calculated for each area see column 3 lines 55-62); and using the calculated gain coefficients to apply a sharpness correction to image data representing corresponding ones of the areas in the original image data. Levien does not disclose calculating a high-frequency component of the original image data; correcting the calculated gain coefficients based upon the calculated high-frequency component with respect to the one frame of the image; and using the calculated gain coefficients to apply a sharpness correction to image data representing corresponding ones of the areas in the original image data. Gallagher discloses, calculating a high-frequency component of the original image data (noise map column 7 lines 10-15); correcting the calculated gain coefficients (column 7 line 11 modify the gain map) based upon the high-frequency component (noise map column 7 lines 10-15), which has been calculated by said second high-frequency component calculation device (noise map generator column 3 line 19). The motive for combining these is to make sure that "the gain does not exceed a predetermined limit in areas where the noisy pixel belief map indicates high belief that the region is noisy" (column 7 lines 10-15). Therefore it

would have been obvious to one of ordinary skill in the art to combine the present references to reach the aforementioned advantage.


Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean Motsinger whose telephone number is 571-270-1237. The examiner can normally be reached on 9-5 M-F.
8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on (571)272-7429. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Motsinger
3/12/07


JINGGE WU
SUPERVISORY PATENT EXAMINER